

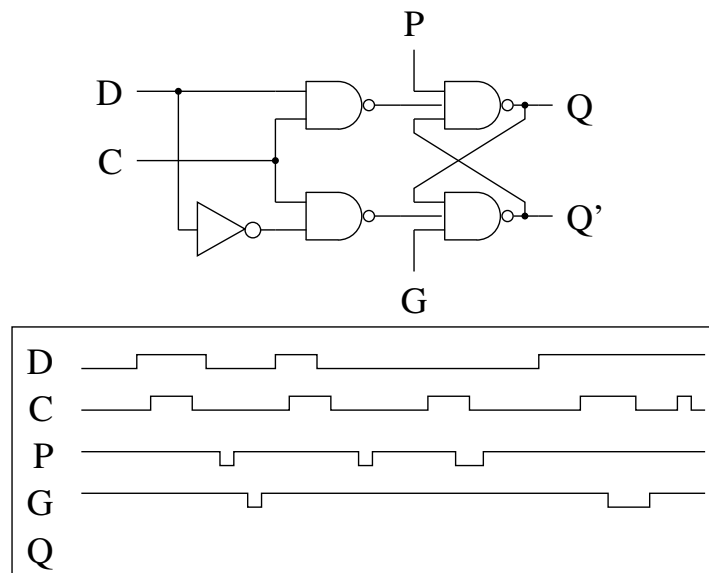
Physics 262

Homework #8

Show your work.

For design problems, work to within 5% of specifications.

below is the circuit for a d-type flip-flop, also called a latch. It has a single data line, D, the value of which gets stored when the clock, C, is pulsed.



1. The timing diagram above shows the input states D, C, P, G. Sketch the output, Q. Assume that the initial value of Q is unknown. Indicate the first moment in time that Q has a known value.
2. What happens if P is low while the clock is low? Same question for G.
3. Is it possible for the two outputs to be equal, $Q = Q'$? How many ways can you come up with to make this happen?